Oracle Plug-in for Windows Agent 7.1

User Guide

Revision: This manual has been updated for Version 7.1 for Windows (November 2012).
Software Version: 7.10 for Windows

The Agent, Agent Console, and Vault applications have the added encryption option of 128/256 bit AES (Advanced Encryption Standard). Advanced Encryption Standard algorithm (named Rijndael, pronounced "Rain Doll") was developed by cryptographers Dr. Joan Daemen and Dr. Vincent Rijmen. This algorithm was chosen by the National Institute of Standards and Technology (NIST) of the U.S. Department of Commerce to be the new Federal Information Processing Standard (FIPS). See:http://csrc.nist.gov/encryption/aes/round2/r2report.pdf for details.

The Agent and Vault applications have the added security feature of an over the wire encryption method.

Contents

1   Oracle Plug-in

This version of the Oracle Plug-in supports Windows Agents. It is an add-on that allows you to perform database backups on Oracle databases.

The Plug-in installs on top of the Agent on the database host to perform backups.

This diagram illustrates the basic product implementation.
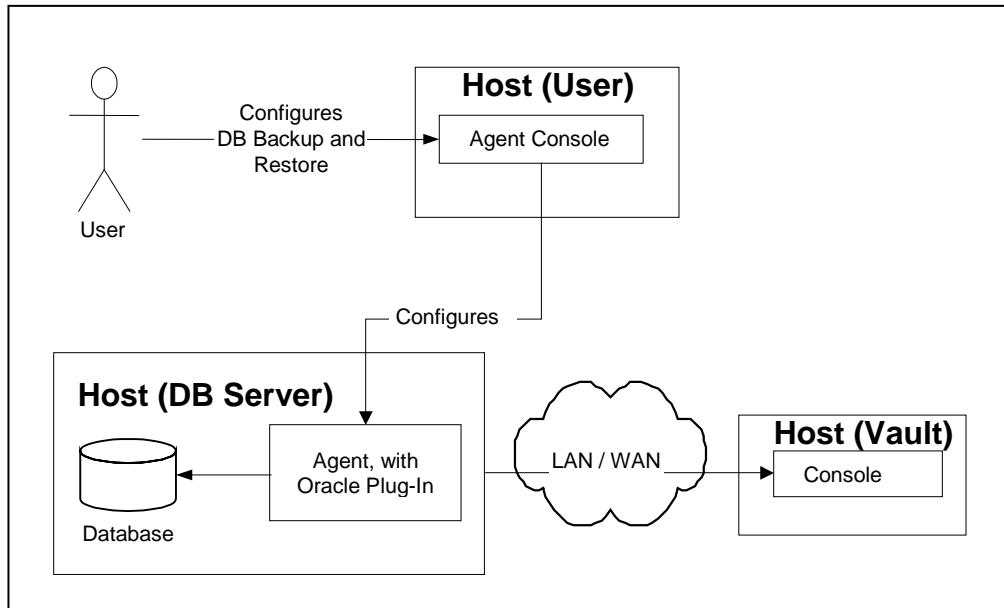
A user, typically a DBA, configures the backup via the Web Agent Console or Windows Agent Console application. Agent Console configures the Agent, which typically resides on a different host.

A user can schedule a backup of the database, at which time the Agent (with the help of the Oracle Plug-in) will send the database information to the Vault.

1.1   Features

- Support for 64-bit Oracle backup and recovery.

- The Oracle Plug-in provides ARCHIVELOG-based, non-RMAN backups of whole online database instances. All non-temporary tablespaces and instance parameter files are automatically backed up. Oracle Corporation recommends that backups take place in periods of low database activity.

- Full and partial databases are restored through normal user-managed Oracle recovery mechanisms.

- Agent versions 5.6 and above specify databases using Oracle Service Names. They do not require script-level or backup-level ORACLE_HOME customization.

- Database passwords are encrypted for enhanced security over script-based methods.

1.2   Limitations

- Only local, single-instance, disk-based databases are backed up.

- Database clusters are not backed up.

- Raw devices are not backed up.

- Remote databases are not backed up.

- The database must run in ARCHIVELOG mode, and the user under which the backup is configured must have SYSDBA privileges.

1.3   Release Notes

Release notes provide "up to the minute" information about the released product. They also contain an overview of new features, supported platforms, known defect (bug) fixes incorporated since the last release, a description of known issues, and a section about product support. Release notes are available from your service provider.

1.4   Online Help

Agent Console (Windows Agent Console/Web Agent Console) provides online help, which contains information similar to the contents of this User Guide.

1.5   Agent Console

Agent Console provides a centralized point of control for managing all computers running the Agent software on a large computer network. Within an organization, the configuration and scheduling of Jobs is done through the computer running the Agent Console software.

The Agent Console software connects to an organization's computers running the Agent software, activating the backup Jobs.

The "Agent Console Operations Guide" is the main manual used by the customer/user responsible for installing, configuring and using all Agents and the Agent Console software (and any applicable Plug-ins). The chapters in the manual cover the following topics:

- Installing the main Agent Console software (GUI)

- Using the Agent Console GUI – Workspace, Agents, Agent Configurations, Jobs, Safesets, Catalogs and Log files

- Performing Backups – Types, Seeding, Mapped drives and databases, Options, Tape, Retentions, Notification, Expiration, Scheduling and Ad hoc

- Report Logs – Creating and Managing Log files

- Data Security – User Authentication and Encryption

- Open File Backup – Shared files, OTM, and OFM

- Troubleshooting and Command-Line Interface

The "Agent for Microsoft Windows User Guide" describes Agent configuration, backups and restores, plus how to install the Agent for Windows.

2   Installing the Plug-in

The Oracle Plug-in integrates into existing architecture and allows you to protect Oracle databases. The Agent also performs recovery processes, providing data that you can use to recover Oracle databases.

For information about creating a new Agent, creating a backup Job, scheduling backups, and disaster recovery, refer to the Operations Guides and User Guides.

2.1   System Requirements

The Oracle Plug-in for Windows works in conjunction with a 32-bit or 64-bit Agent. See the latest Agent release notes for specific information about which Oracle platforms are supported.

2.2   Installation

To install the Oracle Plug-in for Windows, run the Agent installation kit. The Oracle Plug-in will appear as an option on the Custom Setup page.

The Agent kit will not contain the "Oracle Instant Client" which may be required by the Oracle Plug-in for Windows. The Oracle Instant Client is available through a separate kit.

The Oracle Instant Client kit, created with InstallShield, is dedicated to installing Oracle's Instant Client. This kit will only place the Oracle Instant Client in the installation directory of the Server Agent. If the Agent has not already been installed, the installation process will terminate gracefully.

Note: Instant Client support is supplied as a separate component from the Plug-in. It is installed separately. The application will provide a warning to install Instant Client support if it is required and not already there.

2.3   Running the Plug-in

The Oracle Plug-in performs what Oracle Corporation deems an "inconsistent" whole database backup, requiring that the database be run in ARCHIVELOG mode. During a live backup, any changes to the database will be written to archive logs. The DBA should ensure that the database is in ARCHIVELOG mode.

Note: You can also put the database in ARCHIVELOG mode when you initially set it up. Alternatively, you can use the Enterprise Manager or other DBA tools

3   Working with Backups

Before you perform Oracle database backup or restore processes, be sure that you have all information such as names, locations, passwords, etc., that the wizard will request. You can use the following table for reference.

System Requirement	Customer/User Supplied Value	Comments
New Job Name	Job Name =	Name of Job to communicate with an Agent that has the Oracle Plug-in
Backup Source Type	Oracle	Choose Oracle from the dropdown menu
Oracle Options (database to back up, and database account information)	Database Service Name * = User Name = Password =	Options validate the fields, and allow connection to the database
Encryption type	Encryption type = Password = Password Hint =	If you select a type, you must supply a password
Logging options	Create log file = Y/N Log detail level = Keep or purge log files = Number of logs to keep =	
Schedule	Immediate = Schedule =	You can run backup Jobs immediately, or through a schedule. You can optionally use the scheduling wizard.
Destination vault	Vault Name = Network Address =	Choose from the dropdown list of Directors (Vaults)

* For Oracle 11g in Web Agent Console, set the Database Service Name to the Database Instance from Oracle (rather than the Instance Name from Oracle).

For Oracle 11g in Windows Agent Console, set the Oracle Service Name to the Database Instance from Oracle (rather than the Instance Name from Oracle).

3.1   Oracle Instance Protection

To back up an Oracle database, install the Agent on the same system as the Oracle database server. Create a new Job using "Oracle" as the Backup Source Type. The New Job wizard will direct you through the process. Briefly, the steps are:

1.   Open Web Agent Console and create a new Job.

2.   Select Oracle in the Backup Source Type list. The Oracle Options will appear on the page.

3.   Enter the Database Service Name, User Name, and Password.

   For Oracle 11g in Web Agent Console, set the Database Service Name to the Database Instance from Oracle (rather than the Instance Name from Oracle).

   For Oracle 11g in Windows Agent Console, set the Oracle Service Name to the Database Instance from Oracle (rather than the Instance Name from Oracle).

   Jobs back up only one database at a time. There can be more than one Job doing backups on different databases (but you cannot run multiple Jobs at the same time on the same database).

4.   Select or confirm the databases that you want to back up.

5.   If you wish, select an encryption type, and supply an encryption password. Also, select any advanced options (e.g., compression and logging levels) that you want.

6.   Specify a schedule if you wish. Oracle Corporation recommends that backups take place in periods of low database activity.

7.   Choose a destination (i.e., vault) for the backup data.

8.   Start the backup immediately, or let it run on a schedule.

   Log files are created on the Web Agent Console machine, under the installation directory. Their names match the Job names. You normally view them from Web Agent Console.

3.2   How Backups Work

When a backup starts, the Oracle Plug-in iterates through all non-TEMPORARY tablespaces (including ONLINE, OFFLINE, and READONLY tablespaces). Each ONLINE tablespace will enter ARCHIVELOG mode (which creates a snapshot of the tablespace's files). The tablespace's component files will be backed up. When the backup of an ONLINE tablespace's files finishes, the tablespace will return to normal mode.

After all of the tablespaces have been backed up, the Plug-in flushes any pending redo logs, and also backs up the generated archive logs. These logs will always be new files.

Note: Configuration files that are not instance-specific (such as tnsnames.ora, sqlnet.ora and listener.ora) are not backed up by the Plug-in. You can back these up using an ordinary file-based Agent.

3.2.1   Control File Name and Format

The control file is backed up with a different name. The control file's format is:
BACKUP_ORACLE_SID_CONTROLEFILE_safesetname.CTL

The instance control files are backed up as binary files, as well as TRACE log entries. The instance parameter files (init<ORACLE_SID>.ora and/or spfile<ORACLE_SID>.ora, depending on the version and configuration of Oracle) and the Oracle password file are also backed up.

4   Working with Restores

Restores might be necessary in a variety of situations:

- A requirement to restore the full database.

- With no system backup, restoring the system from the ground up ("bare metal") – installing the OS, applications, and then the full database (plus any transaction logs) onto a new system.

If there is an Oracle backup and a full-system backup, restore the system (putting back the contents of ORACLE_HOME – specifically the database installation). You may safely exclude the data files and archive logs that are backed up by the Plug-in.

Finally restore the Oracle backup, and then copy the required components to the appropriate directories. Follow the standard user-managed Oracle recovery procedure outlined in the appropriate OS Oracle Backup and Recovery Guide (available on the Oracle website).

An Oracle restore process is performed by a Database Administrator. Briefly, the steps are:

- Shut down the database.

- Restore the files.

- If necessary, reset the control information for the database.

- Start and recover the database.

- Re-open the database for use.

The Plug-in does not do table-level restores.

4.1   Restoring Ordinary Data

To restore:

1.   Select an Agent and Job for the backup data that you want to restore.

2.   Click Run Restore. The Restore From Backup window will appear.

3.   Select a type of restore device (e.g., vault or directory).

4.   Select a safeset (or a range of safesets).

5.   Select the restore objects (files or directories).

6.   Specify the restore destination.

7.   Select other options (e.g., file overwriting and levels of detail in logs).

8.   Remaining within the wizard, click Run Restore on the Options page.